

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Utilities Telecom Council and	)	RM-11429
Winchester Cator, LLC	)	
	)	
Petition for Rulemaking to Establish Rules	)	
Governing Critical Infrastructure Industry	)	
Fixed Service Operations in the 14.0–14.5 GHz	)	
Band	)	

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**REPLY OF INTELSAT CORPORATION**

Intelsat Corporation (“Intelsat”) hereby replies to Comments and Oppositions filed in the above-referenced Petition for Rulemaking of the Utilities Telecom Council (“UTC”) and Winchester Cator, LLC (“Winchester,” and together with UTC, the “Petitioners”). As the record abundantly illustrates, the Petitioners have failed to carry their burden of showing that the public interest would be served by a rulemaking proceeding for introducing a ubiquitous secondary fixed service in the intensively used 14.0–14.5 GHz band allocated to primary Fixed Satellite Service (“FSS”). The Commission should therefore dismiss the Petition.

The great majority of commenters oppose the Petition on the basis that it would cause harmful interference to both incumbent and proposed services. Also, FSS earth stations would interfere with UTC receivers, and the techniques described by the Petitioners would not avert such interference. The record further shows that the Petition is procedurally and substantively deficient. It fails to propose any definite rule, precluding any productive consideration by the Commission or discussion by the public, and it fails to demonstrate any real need for the

requested allocation. As such, Intelsat urges the Commission to adhere to the conclusions dictated by the record and dismiss the Petition as defective, and contrary to the public interest.

## **I. THE OVERWHELMING MAJORITY OF COMMENTERS OPPOSE THE UTC/WINCHESTER PETITION**

The record demonstrates that the Petitioners' proposal is technically and administratively unworkable. As discussed below, a strong majority of commenters affirm that the proposed fixed service use of the 14.0–14.5 GHz band would result in harmful interference to both incumbent FSS users, as well as to the proposed fixed service users. Moreover, given the massive deployment of UTC receivers contemplated in the Petition and the more than 600,000 FSS earth stations already transmitting in the 14.0-14.5 GHz band, the techniques described by the Petitioners to protect their own operations are wholly inadequate.

Commenters universally agree that the proposed fixed service use of the band would cause harmful interference to satellite services.<sup>1</sup> As the Satellite Industry Association ("SIA") explains, the proposal "would cause unacceptable interference to primary satellite services and would impair the development of secondary satellite services."<sup>2</sup> Specifically, SIA and many others point out that the Petition is fundamentally flawed because it bases its non-interference claim on a 6%  $\Delta T/T$  allowance threshold, which is reserved for co-primary operations.<sup>3</sup>

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<sup>1</sup> See, e.g., Opposition of the Boeing Company at 2 ("Boeing Opposition") ("The proposed UTC-Winchester services would cause harmful interference . . . in the 14.0 – 14.5 GHz band."). Even comments that support the Petition recognize that, without effective mitigation, the proposed use of the band would cause intolerable interference. See, e.g., Comments of the Fixed Wireless Communications Coalition at 4 ("FWCC Comments") ("The FWCC's support is conditioned on the new service's meeting [its] obligations" to "protect the primary service and pre-existing secondary users.").

<sup>2</sup> Opposition of the Satellite Industry Association at 6 ("SIA Opposition").

<sup>3</sup> See Boeing Opposition at 6; Opposition of Global VSAT Forum and European Satellite Operators Association at 10 ("GVF Opposition"); Opposition of Hispasat, S.A. at 3 ("Hispasat Opposition"); Opposition of Hughes Network Systems, LLC at 5 & nn.6–7 ("Hughes Opposition"); Opposition of Row 44, Inc. at 4–5 & n.6 ("Row 44 Opposition"); Comments by the Satelites Mexicanos, S.A. DE C.V. ("SATMEX") at 2 ("SATMEX Comments"); Opposition

Petitioners should have used the 1% collective threshold applicable to secondary users.<sup>4</sup> Even a few fixed service systems would cause excessive interference at this higher level.<sup>5</sup> Indeed, even were the 6% allowance appropriate in this case—which it is not—the millions of transmitters predicted by Petitioners would increase the Ku-band FSS noise floor well beyond 6%,<sup>6</sup> flunking UTC/Winchester’s own test. And, when interference unavoidably occurs, it would be very difficult if not impossible to determine where the interference is originating and which transmitters to shut down.<sup>7</sup> Essentially, as Artel Inc. explains, the “Petitioners ignore the overwhelming body of technical work that shows ubiquitous terrestrial services and ubiquitous satellite services cannot exist in the same spectrum.”<sup>8</sup>

Commenters also recognize that the proposed critical infrastructure industry (“CII”) operations would likewise face interference that undermines the stated purpose of the Petition.<sup>9</sup> Several commenters, including the Boeing Company, make clear that the 99.999% link

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of SeaMobile Inc. at 5–6 (“SeaMobile Opposition”); Opposition of SES Americom, Inc., New Skies Satellites, Inc., and Intelsat Corporation at 8 (“SES Americom et al. Opposition”); SIA Opposition at 6; Opposition by the Satellite Users Interference Reduction Group at 8 (“SUIRG Opposition”).

<sup>4</sup> See, e.g., SIA Opposition at 6.

<sup>5</sup> See Boeing Opposition at 6; Row 44 Opposition at 5; SES Americom et al. Opposition at 8; SIA Opposition at 7; SUIRG Opposition at 8–11; Comments of ViaSat, Inc. at 6 (“ViaSat Comments”).

<sup>6</sup> See SIA Opposition, Annex 1 at 8.

<sup>7</sup> See Opposition of Artel Inc. at 3 (“Artel Opposition”); Boeing Opposition at 7–8; GVF Opposition at 9–10; GVF Opposition at 9; Hughes Opposition at 4; SATMEX Comments at 2; SES Americom et al. Opposition at 8–9; SIA Opposition at 7–8.

<sup>8</sup> Artel Opposition at 3; *see also* GVF Opposition at 9. Even FWSS, which supports the Petition, implicitly recognizes this reality by noting the presence of coordination problems in other bands that are used by both satellite earth stations and fixed services. *See* FWSS Comments at 2.

<sup>9</sup> See, e.g., SES Americom et al. Opposition at 10; SIA Opposition at 14–16; SUIRG Opposition at 4–5.

availability required for CII services<sup>10</sup> is unrealistic and most likely unattainable for secondary operations in the band.<sup>11</sup> Even Southern Company Services, Inc., which supports the Petition, urges the Commission to provide *other* “spectrum for CII use that will better meet the utilities’ need” for critical services.<sup>12</sup> Emergency situations in particular would bring a convergence of band users and aggravate interference at the very time and location the CII operators would most need reliable spectrum access to accommodate their emergency response communications needs.<sup>13</sup>

The record also demonstrates that the proposed mitigation and interference coordination procedures are wholly inadequate and would not be effective even for much more modest link availability targets. While the Petitioners assert that any interference that occurs could be remedied through coordination, Global VSAT Forum and other commenters point out that such coordination takes place only between users of equal priority, not between primary and secondary licensees.<sup>14</sup> In any case, coordination would be unfeasible due to the ubiquitously

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<sup>10</sup> FibertTower confirms that CII communications “often are designed to be more reliable than standard wireless communications networks.” Comments of FiberTower Corporation at 2–3 (“FibertTower Comments”).

<sup>11</sup> See Boeing Opposition at 8; Artel Opposition at 5–6; GVF Opposition at 16; Hispasat Opposition at 2–3; Hughes Opposition at 7; Row 44 Opposition at 6; SATMEX Comments at 3; SES Americom et al. Opposition at 11; SIA Opposition at 14–15; ViaSat Comments at 8.

<sup>12</sup> Comments of Southern Company Services, Inc. at 3 (emphasis added) (“Southern Comments”).

<sup>13</sup> See Artel Opposition at 6; GVF Opposition at 17; Hispasat Opposition at 3; Hughes Opposition at 7; Row 44 Opposition at 5–6; SATMEX Comments at 3; SES Americom et al. Opposition at 9–10; SIA Opposition at 8, 14; SUIRG Opposition at 6. This problem would be further aggravated by FiberTower Corporation’s proposal to expand the definition of CII to include additional public safety and emergency response entities. See FiberTower Comments at 2–3.

<sup>14</sup> See GVF Opposition at 17; Artel Opposition at 6; Hispasat Opposition at 4; Hughes Opposition at 7; Row 44 Opposition at 6; SeaMobile Opposition at 7–8. Regardless of the primary status of the FSS and the proposed secondary status for the terrestrial services, public policy issues would arise when interference occurs.

deployed, blanket-licensed VSAT stations<sup>15</sup> and the increasing number of mobile applications in the band that would “cause intermittent, unexpected, and unavoidable interference to fixed services sites.”<sup>16</sup> More fundamentally, the Petitioners stake their mitigation claims on the false premise that current use of the band is narrowband when in fact, as SeaMobile and several other commenters highlight, many of the systems on the band use spread spectrum technologies.<sup>17</sup> In addition, commenters identify various other defects in the proposed mitigation strategy, including failure to account for pointing errors,<sup>18</sup> incorrect assumptions regarding power levels,<sup>19</sup> insufficient separation distances,<sup>20</sup> and reliance on unproven technologies.<sup>21</sup>

Finally, commenters correctly warn that allowing a self-interested, commercial licensee to coordinate interference issues would not protect incumbents from harmful interference.<sup>22</sup> While Intelsat recognizes the importance of having “a single point of contact” to coordinate interference,<sup>23</sup> appointing the licensee as coordinator would create an inescapable conflict of

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<sup>15</sup> See Artel Opposition at 6; Hughes Opposition at 7; Row 44 Opposition at 6; SES Americom et al. Opposition at 10; SIA Opposition at 12–13; SUIRG Opposition at 5.

<sup>16</sup> SIA Opposition at 14; *see also* SES Americom et al. Opposition at 10; SUIRG Opposition at 5.

<sup>17</sup> See SeaMobile Opposition at 6; ARINC Opposition at 5; Boeing Opposition at 8–9; GVF Opposition at 17–18; Hughes Opposition at 7; SES Americom et al. Opposition at 11; SIA Opposition at 10–11; SUIRG Opposition at 7; ViaSat Comments at 6–7.

<sup>18</sup> See SATMEX Opposition at 3; SES Americom et al. Opposition at 9; SIA Opposition at 8; *see also* SeaMobile Opposition at 6 (noting that the Petitioners’ offer to point five degrees off the GSO arc would not protect NGSO FSS); ViaSat Comments at 8 (noting that the Petition does not address whether return link transmissions could avoid the GSO arc).

<sup>19</sup> See Boeing Opposition at 9.

<sup>20</sup> See *id.* at 9–10; SIA Opposition at 11–12.

<sup>21</sup> See ARINC Opposition at 4; SUIRG Opposition at 7.

<sup>22</sup> See GVF Opposition at 18–19; Hughes Opposition at 8; SeaMobile Opposition at 8; SIA Opposition at 18; SUIRG Opposition at 5; ViaSat Comments at 9–10.

<sup>23</sup> FWCC Comments at 4.

interest. As Intelsat stated in its joint Opposition with SES Americom and New Skies Satellites, “the purpose of the Petition clearly appears to be to set Winchester up to be the single entity in a position to charge a fee for and profit from access to 500 MHz of spectrum for new fixed service applications.”<sup>24</sup> The proposal to appoint such an entity as coordinator severely erodes any confidence in the Petitioners’ assurances of interference protection.

## **II. THE UTC/WINCHESTER PETITION IS DEFICIENT AND SHOULD BE DISMISSED ON ITS FACE**

The record indicates that the UTC/Winchester Petition does not meet the standard for consideration by the Commission and that the Petition must therefore be dismissed. Under the Commission’s rules, a petition must “set forth the text or substance of the proposed rule [or] amendment,” and must present “all facts, views, arguments and data deemed to support the action requested.”<sup>25</sup> Because the Petition here fails to satisfy these requirements and fails to proffer competent support for instituting a new rulemaking, it should be dismissed without further consideration.

First, the UTC/Winchester Petition is procedurally deficient because it fails to propose a rule. As ViaSat points out, even though the Commission’s rules require that a petition “set forth the text or substance” of a proposed rule, this Petition “neither proposes any rule changes nor provides sufficient detail to permit the Commission or the public to intuit the shape or substance of the rules that would be necessary to implement the proposal.”<sup>26</sup> Not only does the Petition fail to propose “technical and operational rules” to protect current users from harmful interference, it

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<sup>24</sup> SES Americom et al. Opposition at 5; *see also* GVF Opposition at 20; Hughes Opposition at 8; SeaMobile Opposition at 8; SIA Opposition at 17.

<sup>25</sup> 47 C.F.R. § 1.401(c). A Petition must also “indicate how the interests of petitioner will be affected.” *Id.*

<sup>26</sup> ViaSat Comments at 4.

also “fails to propose rules to ensure that [the proposed] allocation actually would be used to support the ‘critical infrastructure industry’ communications that Winchester cites as the basis for its allocation proposal.”<sup>27</sup> Nor do the Petitioners provide adequate technical data “to support the action requested,”<sup>28</sup> as the rules require, instead relying “entirely on a report . . . [that] is incomplete and lacks critical data.”<sup>29</sup> These procedural omissions deny the Commission a basis for evaluating whether a rulemaking proceeding warrants the Commission’s time and resources.

Second, the UTC/Winchester Petition is substantively deficient by failing to support its alleged spectrum needs. In addition to the immitigable interference problems noted above,<sup>30</sup> the record makes clear the Petitioners’ have failed to demonstrate a need for additional spectrum for fixed services.<sup>31</sup> This is illustrated by fixed services operators’ failure to take full advantage of recently expanded spectrum opportunities. For instance, when FiberTower asked the Commission to allow small antennas for fixed services in the 11 GHz band, it described the band as “presently underused.”<sup>32</sup> In the time since the Commission approved its request,<sup>33</sup> however, FiberTower has done little to expand its use of the spectrum, even describing fixed wireless

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<sup>27</sup> *Id.* at 4–5.

<sup>28</sup> 47 C.F.R. § 1.401(c).

<sup>29</sup> ViaSat Comments at 5.

<sup>30</sup> *See supra* Part II.

<sup>31</sup> *See* ARINC Opposition at 5; Artel Opposition at 4; GVF Opposition at 15–16; Hughes Opposition at 6; Row 44 Opposition at 6–7; SeaMobile Opposition at 3–4; SES Americom et al. Opposition at 7; SIA Opposition at 16–17.

<sup>32</sup> *Amendment of Part 101 of the Commission's Rules to Increase Spectrum Use Through More Flexible Antenna Rules for the 10.7-11.7 GHz Band*, RM-11043, Reply Comments of FiberTower, Inc. at 4 (filed Sept. 7, 2004).

<sup>33</sup> *See Antenna Requirements for the 10.7–11.7 GHz Band*, 22 FCC Red 17153 (2007).

development in the band as “speculative.”<sup>34</sup> The actions of fixed service providers thus demonstrate that the need for additional fixed service spectrum is not as pressing as the Petitioners claim.

Even if the Petitioners could show a general need for additional fixed service spectrum, the majority of Comments on this issue demonstrate that CII entities have many other, better-suited spectrum options. The record contradicts the Petition’s unsupported assertion that other frequency bands are “plagued by congestion” and “insufficient to meet the growing spectrum needs . . . of CII entities.”<sup>35</sup> Hughes Network Systems points out, for instance, that primary fixed service spectrum is available in the 27 GHz, 38 GHz, and 71 GHz bands,<sup>36</sup> and that CII users could otherwise satisfy their capacity needs by leasing from FSS networks or other terrestrial wireless licensees.<sup>37</sup> Neither the Petitioners nor any commenters suggest that these options are unavailable or inadequate.

Moreover, the quantity of spectrum sought in the 14.00-14.5 GHz band appears to far exceed the power companies’ need. This is perhaps best illustrated in the Comments of Southern Company Services, Inc., which state that 12.5 kHz channels “are adequate for routine supervisory control and data acquisition.”<sup>38</sup> Although Southern Company Services, Inc. does not specify its exact bandwidth requirement for other operations, and more than one CII company

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<sup>34</sup> See FiberTower Investment Day Presentation at 39 (April 1, 2008) (submitted as an exhibit to FiberTower’s Form 8K for the U.S. Securities & Exchange Comm’n) *available at* <http://www.secinfo.com/d11MXs.tW3j.d.htm> (showing fixed wireless development of the 11 GHz band, as well as other bands, to be a “pending” matter and “speculative”).

<sup>35</sup> Petition at 8.

<sup>36</sup> See Hughes Opposition at 6; *see also* Artel Opposition at 4; GVF Opposition at 16; SeaMobile Opposition at 3–4.

<sup>37</sup> See SIA Comments at 17.

<sup>38</sup> Southern Comments at 3.



may be using spectrum in the same location, the 500 MHz requested in the Petition corresponds to an increase of the current channel bandwidth available to Southern Company Services, Inc. by a factor of 40,000.

Finally, the Petition “plainly [does] not warrant consideration by the Commission.”<sup>39</sup> As ARINC and other commenters point out,<sup>40</sup> two pending proceedings are currently before the Commission to adopt service rules and resolve the status of Aeronautical Mobile Satellite Services (“AMSS”) and Vehicle Mounted Earth Stations (“VMES”) in the 14.0–14.5 GHz band.<sup>41</sup> Because the disposition of these proceedings, for which the Petitioners utterly fail to account, would further complicate any attempt to coordinate among the increasing number of users in the band, the Commission should dismiss the Petition as wholly impracticable.

### III. CONCLUSION

As explained above, the undisputed record compels the conclusion that the UTC/Winchester Petition for Rulemaking should be dismissed. The majority of commenters resoundingly agree that the proposed CII use of the 14.0–14.5 GHz band would unavoidably cause harmful interference to both current and proposed users. Even supporting commenters recognize the danger of interference to existing users. Also, FSS earth stations would cause interference to UTC receivers, and the techniques described by the Petitioners would not be able to prevent such interference. Furthermore, neither the Petitioners nor supporting commenters clearly demonstrate a need for additional fixed service spectrum generally or in the Ku-band

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<sup>39</sup> 47 C.F.R. § 1.401(e).

<sup>40</sup> See ARINC Opposition at 4–5; Boeing Opposition at 11–13; Row 44 Opposition at 7; SIA Opposition at 8.

<sup>41</sup> See *Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*, 20 F.C.C. Rcd 2906 (2005) (Notice of Proposed Rulemaking); *Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service*, 22 F.C.C. Rcd 9649 (2007) (Notice of Proposed Rule Making).

specifically. Finally, the record demonstrates that the Petition is technically and substantively deficient and thus “plainly [does] not warrant consideration by the Commission.”<sup>42</sup> Accordingly, the Commission should promptly dismiss Petitioner’s request for rulemaking.

Respectfully submitted,

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Dated: August 11, 2008

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<sup>42</sup> 47 C.F.R. § 1.401(e).

## CERTIFICATE OF SERVICE

I, Pam Conley, do hereby certify that on August 11, 2008, I served a copy of the Reply of Intelsat Corporation upon the following parties by U.S. first-class mail, postage pre-paid:

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